

REMARKS

Claims 1-33 are pending in the application. In the Office action of June 30, 2004, claims 1-6, 8, 9, 13, 18, 19, 24-29 and 33 were rejected and claims 7, 10-13, 14-17, 20-23, and 30-32 were objected to. The rejection is traversed. Further examination and reconsideration respectfully are requested.

Status of the Drawings

The drawings filed on August 27, 2001 were objected to by the examiner on the grounds that they contain blank boxes and other shapes that are not widely recognized engineering symbols. However, applicants believe that a number of boxes and shapes used in the figures either are conventional or are labeled. In the optics arts, it is conventional to show lenses as ovals, transmission gratings as rectangular boxes, mirrors as lines, and waveguides as elongated rod-like objects with parallel linear or curvilinear lines, all without labeling, as is evident from many of the various US patents cited as references by the examiner. Optical elements represented in cross-section also conventionally are not labeled.

Inasmuch as the examiner was not specific as to which boxes and shapes were found to be objectionable, applicants have made a good faith effort to identify and label all boxes and shapes that either are not conventional or where understanding of the drawings would be enhanced. Accordingly, a number of changes have been made in the figures, as detailed in the section "Amendments to the Drawings."

In view of these changes, applicants believe that the drawings are no longer objectionable. However, should the examiner believe that any of the drawings are objectionable, he is respectfully requested to telephone the undersigned to discuss the objection so there can be no ambiguity as to what corrective action would be appropriate.

*Status of Examiner's Consideration of Applicants'
Information Disclosure Statements*

In the Office action dated June 30, 2004, the examiner returned copies of applicants' Information Disclosure Statements (PTO Form 1449) filed on February 5, 2003 and October 22, 2003. The examiner's acknowledgement of the references cited therein is noted with appreciation.

In applicants' Information Disclosure Statement filed October 22, 2003, one reference was not initialed by the examiner. The absence of the examiner's initials on the reference, US 2002-0154855-A1, Rose, et al., filed on February 21, 2001, "WAVELENGTH DIVISION MULTIPLEXED DEVICE," is believed to be an oversight, since this reference was submitted in an conforming manner, was not crossed off to indicate that it was not in conformance and not considered, and was not mentioned in the Office action as not being in conformance and not having been considered. The examiner respectfully is requested to initial this reference for the record.

A copy of the Information Disclosure Statement as filed on October 22, 2003, along with a copy of the date-stamped post card receipt and a copy of the reference in question, are enclosed in Appendix C for the examiner's convenience and to avoid any confusion.

Claim 33 Is Not Anticipated by Fukushima

Claims 33 was rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,805,759, issued September 8, 1998 to Fukushima. The rejection is traversed.

In rejecting claim 33, the examiner applied FIG. 22 of Fukushima. Fukushima concerns an optical equalizer having variable transmittance versus wavelength characteristics for attenuating light. FIG. 22 of Fukushima discloses an optical equalizer in which light from an input optical fiber 16 is collimated by a lens 28 and is reflected off a

pair of diffraction gratings 20 and 22 to form a spectral beam SP1 whose wavelength components are separated spatially. The spectral beam SP1 is passed through a compensator plate 46, a beam splitter 48', an attenuator plate 6, and a half-wave plate 44, and then is reflected by a mirror 124 to obtain a reflected beam SP2. The reflected beam SP2 returns through the system to an output optical fiber 18'. By adjusting the attenuator 6 with a driver 32, different regions of the spectrum in the reflected beam SP2 may be attenuated. Since spectral beam SP1 and reflected beam SP2 are substantially superimposed on each other, the spectra of both the input light and the output light can be monitored by using the single beam splitter 48'. Spectral beam SP1 is partially branched by the beam splitter 48' and directed to a photodetector array 52, and spectral beam SP2 is partially branched by the beam splitter 48' and directed to a photodetector array 58.

To anticipate a claim, the reference must teach every element of the claim. A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. Applicants respectfully submit that the Fukushima patent does not disclose each and every element of the rejected claim.

An example of limitations recited in claim 33 that are not disclosed in FIG. 22 of Fukushima are the first and second transmission diffraction elements. The examiner applied diffraction gratings 20 and 22 of Fukushima against these limitations. However, diffraction gratings 20 and 22 are reflective diffraction gratings, this is, diffraction gratings that operate by reflecting light, not by passing light as would be done by a transmission diffraction element. Reflective diffraction gratings are not transmission diffraction elements. A further example of a limitation recited in claim 33 that is not disclosed by Fukushima is a reflector means for reflecting the individual channel beams with respective reflectors having selected values of reflectivity. The examiner applied the reflector 124 of Fukushima against this limitation. However, the reflector 124 of Fukushima is unitary and reflects all channels equally, and does not have respective reflectors having selected values of reflectivity for reflecting individual channel beams. A

unitary reflector is not a reflector means for reflecting individual channel beams with respective reflectors having selected values of reflectivity. For at least these reasons, Fukushima cannot anticipate claim 33. Withdrawal of the rejection respectfully is requested.

*Claims 1-6, 8, 9, 13 and 24-29 Are Not Obvious
Over Fukushima*

Claims 1-6, 8, 9, 13 and 24-29 were rejected under 35 U.S.C. §103(a) as being obvious over Fukushima. The rejection is traversed.

In making this rejection, the examiner applied FIG. 22 of Fukushima and the associated text. Applicants discussed the disclosure of Fukushima FIG. 22 in the preceding section, and would refer the examiner in particular to applicants' discussion of the reflection diffraction gratings 20 and 22 and the unitary reflection mirror 124.

Three criteria must be met to establish obviousness. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference. Second, there must be a reasonable expectation of success. Finally, the prior art reference, or combination of references, must teach or suggest all the claim limitations. MPEP § 2142. Applicants respectfully traverse the rejection since the prior art fails to teach or suggest all the claim limitations and there would be no motivation to modify the reference as proposed by the examiner.

Many of the limitations of independent claims 1 and 24 are not disclosed in FIG. 22 of Fukushima. Claims 1 and 24 all include the limitation of first and second transmission diffraction elements, whereas Fukushima discloses only reflective diffraction gratings 20 and 22. Claim 1 further includes the limitation of a plurality of reflectors to reflect respective individual optical channels, while claim 24 further includes the limitation of reflecting the individual channel beams with respective reflectors having

selected values of reflectivity. In contrast, Fukushima discloses only a unitary reflector 124, which reflects all channels equally.

Fukushima itself contains no suggestion or motivation to modify FIG. 22. The reflector 124 of Fukushima is a single, unitary reflector, which equally reflects all of the channels in the dispersion region. Variable attenuation of the spectral light is performed entirely by the attenuator plate 6, which has a planar distribution of transmittance and is movable with respect to its intersection of the spectral beam to achieve variable attenuation. Because the attenuator plate 6 can modify selected spectral components, there is no motivation to add additional components to do the same thing, and there is certainly no motivation to modify the reflector 124 since it is only a reflector that has no role in or capability of modifying selected spectral components. There is certainly no motivation to segment the reflector 124 into a number of smaller reflectors, each being for a channel and having its own reflectivity. Moreover, such a plurality of reflectors would be more expensive and more difficult to align than the unitary mirror 124 of Fukushima.

While the suggestion or motivation to modify the reference may come from knowledge generally available to one of ordinary skill in the art, the examiner has cited to no further evidence. The examiner merely asserts without support the conclusions that “it would have been obvious to one or [sic] ordinary skill in the art at the time of invention to separate the reflector into a plurality of reflectors as a preferred design choice where size of reflecting elements is of higher concern,” and “making parts separable is not considered patentable over the prior art.” The examiner must be guided by MPEP §2144.03, page 2100-136, which provides that:

It would not be appropriate for the examiner to take official notice of facts without citing a prior art reference where the facts asserted to be well known are not capable of instant and unquestionable demonstration as being well-known. For example, assertions of technical facts in the areas of esoteric technology or specific knowledge of the prior art must always be supported by citation to some reference work recognized.

It is not clear to applicants whether the examiner is taking official notice of these factual assertions, but it would not be appropriate to do so because the factual assertions are in the areas of esoteric technology or specific knowledge of the prior art. The examiner is respectfully requested to provide documentary evidence in the next Office action if the rejection is to be maintained.

Independent claims 1 and 24 are therefore not obvious over Fukushima.
Withdrawal of the rejection respectfully is requested.

Dependent claims 2-6, 8, 9 and 13 which are dependent from independent claim 1, and dependent claims 25-29 which are dependent from independent claim 24, were also rejected under 35 U.S.C. §103(a) as being unpatentable over Fukushima. Applicants do not acquiesce with the particular rejection of these dependent claims, which may recite additional features that further distinguish these claims from the cited references. However, the rejection is moot in view of the remarks made in connection with independent claims 1 and 24, since these dependent claims include all of the limitations of their base claims and any intervening claims. Withdrawal of the rejection of dependent claims 2-6, 8, 9, 13 and 25-29 respectfully is requested.

*Claims 18 and 19 Are Not Obvious Over
Jannson in view of Fukushima*

Claims 18 and 19 were rejected under 35 U.S.C. §103(a) as being obvious over US Patent No. 5,278,687 issued January 11, 1994 to Jannson, in view of Fukushima. Fukushima. The rejection is traversed.

Jannson discloses a multiwavelength data communication fiber link comprising a transmitter 12 and a receiver 14. The system of Jannson includes an optical multiplexer/demultiplexer that transmits and receives a multi-wavelength optical signal.

In making this rejection, the examiner applied FIG. 22 of Fukushima and the associated text. Applicants discussed the disclosure of Fukushima FIG. 22 in the preceding section, and refer the examiner in particular to applicants' discussion of the reflection diffraction gratings 20 and 22 and the unitary reflection mirror 124.

Three criteria must be met to establish obviousness. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference. Second, there must be a reasonable expectation of success. Finally, the prior art reference, or combination of references, must teach or suggest all the claim limitations. MPEP § 2142. Applicants respectfully traverse the rejection since the prior art fails to teach or suggest all the claim limitations and there would be no motivation to modify the reference as proposed by the examiner.

Applicants' position on the teachings and suggestions of Fukushima is described in detail in the preceding section, and is fully applicable to applicants' traversal of the rejection of independent claim 18. In summary, claim 18 includes the limitation of first and second transmission diffraction elements, whereas Fukushima discloses only reflective diffraction gratings 20 and 22. Claim 18 further includes the limitation of a plurality of reflectors to reflect respective individual optical channels, whereas Fukushima discloses only a unitary reflector 124 which reflects all channels equally. Fukushima itself contains no suggestion or motivation to modify FIG. 22, inasmuch as the reflector 124 is a single unitary reflector with no role to play in variable attenuation of the spectral light, which is performed entirely by the attenuator plate 6.

Jannson appears to be cited for its teachings regarding various optical system components, not to overcome the deficiencies of the Fukushima teachings. Accordingly, Jannson in view of Fukushima neither teaches nor suggests a plurality of reflectors in the dispersion region disposed to reflect respective individual optical channels.

As in the rejection of claims 1-6, 8, 9, 13 and 24-29, the examiner also asserted in rejecting claims 18 and 19 that without support the conclusions that "it would have been obvious to one or [sic] ordinary skill in the art at the time of invention to separate the reflector into a plurality of reflectors as a preferred design choice where size of reflecting elements is of higher concern," and "making parts separable is not considered patentable over the prior art." As in the prior section, applicants draw the examiner's attention to MPEP §2144.03, page 2100-136, and if the examiner is taking official notice of these factual assertions, respectfully request the examiner to provide documentary evidence in the next Office action if the rejection is to be maintained.

In view of the foregoing remarks, independent claim 18 is not obvious over Jannson in view of Fukushima. Withdrawal of the rejection respectfully is requested.

Dependent claim 19 which is dependent from independent claim 18 was also rejected under 35 U.S.C. §103(a) as being unpatentable over Jannson in view of Fukushima. Applicants do not acquiesce with the particular rejection of these dependent claims, which may recite additional features that further distinguish these claims from the cited references. However, the rejection is moot in view of the remarks made in connection with independent claims 1 and 24, since these dependent claims include all of the limitations of their base claims and any intervening claims. Withdrawal of the rejection of dependent claims 2-6, 8, 9, 13 and 25-29 respectfully is requested.

Conclusion

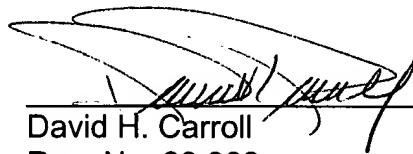
In view of the foregoing remarks, applicants believe that the application is now in condition for allowance and respectfully request favorable reconsideration and the timely issuance of a Notice of Allowance. If a telephone conference would be helpful in resolving any issues concerning this communication, please contact the undersigned at (952) 253-4135.

Respectfully submitted,

Altera Law Group, LLC
Customer No. 22865

Date: September 30, 2004

By:



David H. Carroll
Reg. No. 29,903
DHC/mar

AMENDMENTS TO THE DRAWINGS

The attached sheets of drawings include changes to various figures, as follows.

- This sheet, which contains FIG. 1, replaces the original sheet that contains FIG. 1. In FIG. 1, box 134 has been labeled SWITCH ARRAY.
- This sheet, which contains FIG. 2, replaces the original sheet that contains FIG. 2. In FIG. 2, boxes 228, 230 and 234 have been labeled WAVEGUIDE ARRAY, LIGHT HANDLING UNIT, and LENS ARRAY respectively.
- This sheet, which contains FIG. 6, replaces the original sheet that contains FIG. 6. In FIG. 6, boxes 230, 604, 606 and 608 have been labeled LIGHT HANDLING UNIT, DETECTOR UNIT, PHOTO DETECTORS, and CHANNEL ANALYSIS UNIT respectively.
- This sheet, which contains FIGS. 7 and 10, replaces the original sheet that contains FIGS. 7 and 10. In FIG. 7, boxes 704 and 714 have been labeled AMP and FILTER respectively.
- This sheet, which contains FIG. 8, replaces the original sheet that contains FIG. 8. In FIG. 8, boxes 230, 804 and 806 have been labeled LIGHT HANDLING UNIT, SWITCH UNIT, and OPTICAL SWITCHES respectively.
- This sheet, which contains FIGS. 9A, 9B and 11, replaces the original sheet that contains FIGS. 9A, 9B and 11. In FIGS. 9A and 9B, boxes 806 and 810 have been labeled SWITCH and TRAVELER respectively.
- This sheet, which contains FIGS. 12A, 12B and 13, replaces the original sheet that contains FIGS. 12A, 12B and 13. In FIGS. 12A and 12B, box 1116 has been labeled SWITCH.
- This sheet, which contains FIGS. 14A, 14B, 15A and 15B, replaces the original sheet that contains FIGS. 14A, 14B, 15A and 15B. In FIGS. 14A and 14B, boxes 1116 and 1118 have been labeled SWITCH and REFLECTING SURFACE respectively. In FIGS. 15A and 15B, box 1516 has been labeled SWITCH.

- This sheet, which contains FIGS. 16, 17A and 17B, replaces the original sheet that contains FIGS. 16, 17A and 17B. In FIGS. 17A and 17B, boxes 1516 and 1518 have been labeled SWITCH and REFLECTING SURFACE respectively.
- This sheet, which contains FIGS. 18A and 18B, replaces the original sheet that contains FIGS. 18A and 18B. In FIGS. 18A and 18B, boxes 1116 and 1516 have both been labeled SWITCH.
- This sheet, which contains FIG. 20, replaces the original sheet that contains FIG. 20. In FIG. 20, box 230 has been labeled LIGHT HANDLING UNIT.
- This sheet, which contains FIG. 21, replaces the original sheet that contains FIG. 21. In FIG. 21, box 2130 has been labeled LIGHT HANDLING UNIT.
- This sheet, which contains FIGS. 22 and 29, replaces the original sheet that contains FIGS. 22 and 29. In FIG. 22, box 2204 has been labeled SWITCH ARRAY.
- This sheet, which contains FIG. 23, replaces the original sheet that contains FIG. 23. In FIG. 23, box 2330 has been labeled LIGHT HANDLING UNIT.
- This sheet, which contains FIG. 24, replaces the original sheet that contains FIG. 24. In FIG. 24, box 2430 has been labeled LIGHT HANDLING UNIT.
- This sheet, which contains FIG. 28, replaces the original sheet that contains FIG. 28. In FIG. 28, box 2430 has been labeled LIGHT HANDLING UNIT.
- This sheet, which contains FIGS. 31, 32 and 33, replaces the original sheet that contains FIGS. 31, 32 and 33. In FIG. 31, box 3104 has been labeled SWITCH ARRAY. In FIG. 32, boxes 3108 and 3203 have been labeled SWITCH and REFLECTOR respectively. In FIG. 33, box 3104 has been labeled SWITCH ARRAY.
- This sheet, which contains FIG. 34, replaces the original sheet that contains FIG. 34. In FIG. 34, box 3430 has been labeled LIGHT HANDLING UNIT.
- This sheet, which contains FIGS. 36A and 36B, replaces the original sheet that contains FIGS. 36A and 36B. In FIG. 36A, boxes 3630 and 3632 have been labeled ATTENUATING REFLECTIVE ARRAY and ATTENUATING REFLECTORS respectively. In FIG. 36B, box 3630 has been labeled ATTENUATING REFLECTIVE ARRAY.
- This sheet, which contains FIGS. 38A and 38B, replaces the original sheet that contains FIGS. 38A and 38B. In FIG. 38A, boxes 3630 and 3632 have been labeled

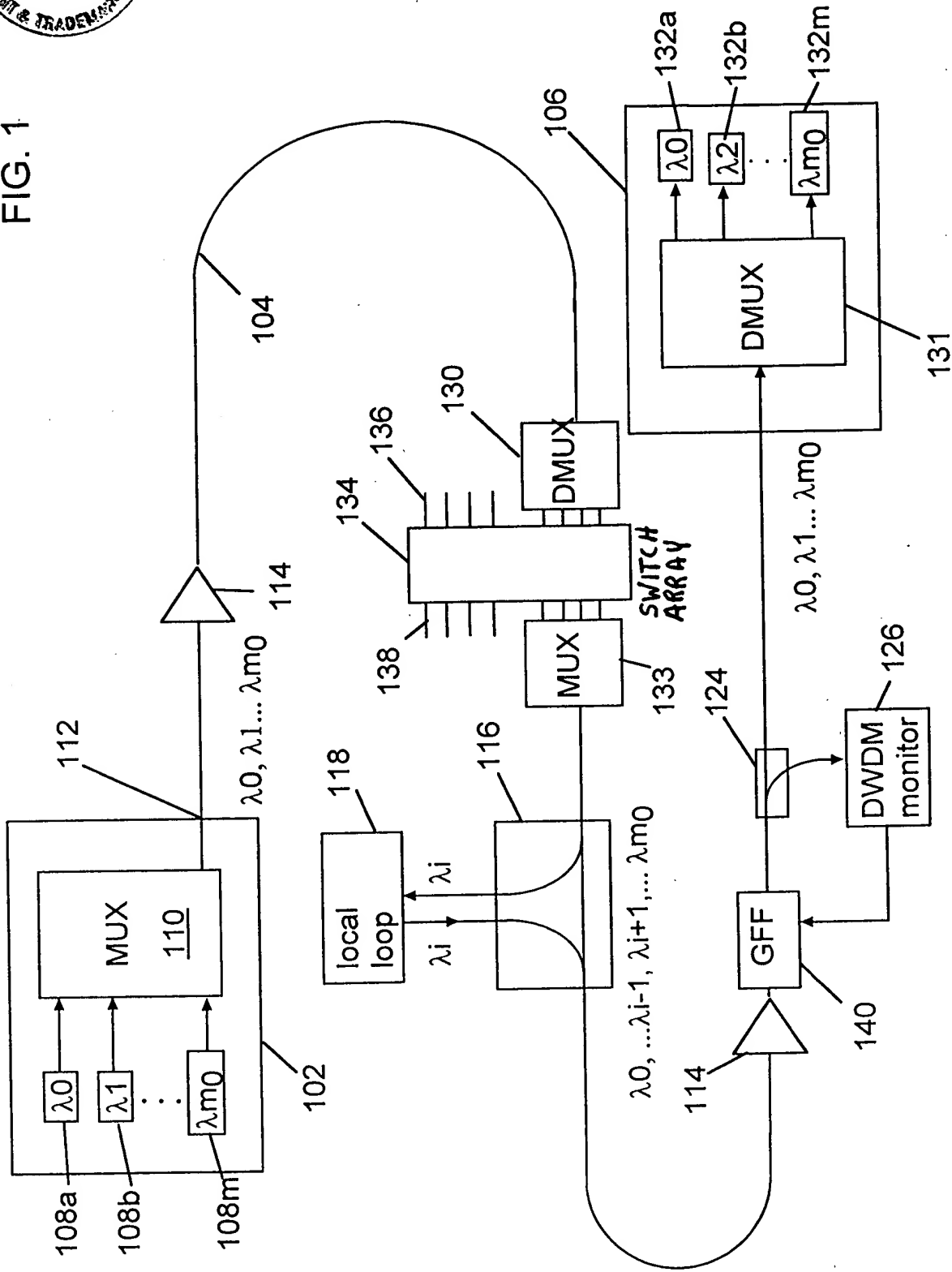
ATTENUATING REFLECTIVE ARRAY and ATTENUATING REFLECTORS respectively. In FIG. 38B, box 3630 has been labeled ATTENUATING REFLECTIVE ARRAY.

- This sheet, which contains FIGS. 39 and 40, replaces the original sheet that contains FIGS. 39 and 40. In FIG. 39, boxes 3930 and 3932 have been labeled ATTENUATING REFLECTOR ARRAY and REFLECTORS respectively.

Replacement sheets containing these changes are attached in Appendix A, and annotated sheets showing these changes in red ink are attached in Appendix B.



FIG. 1



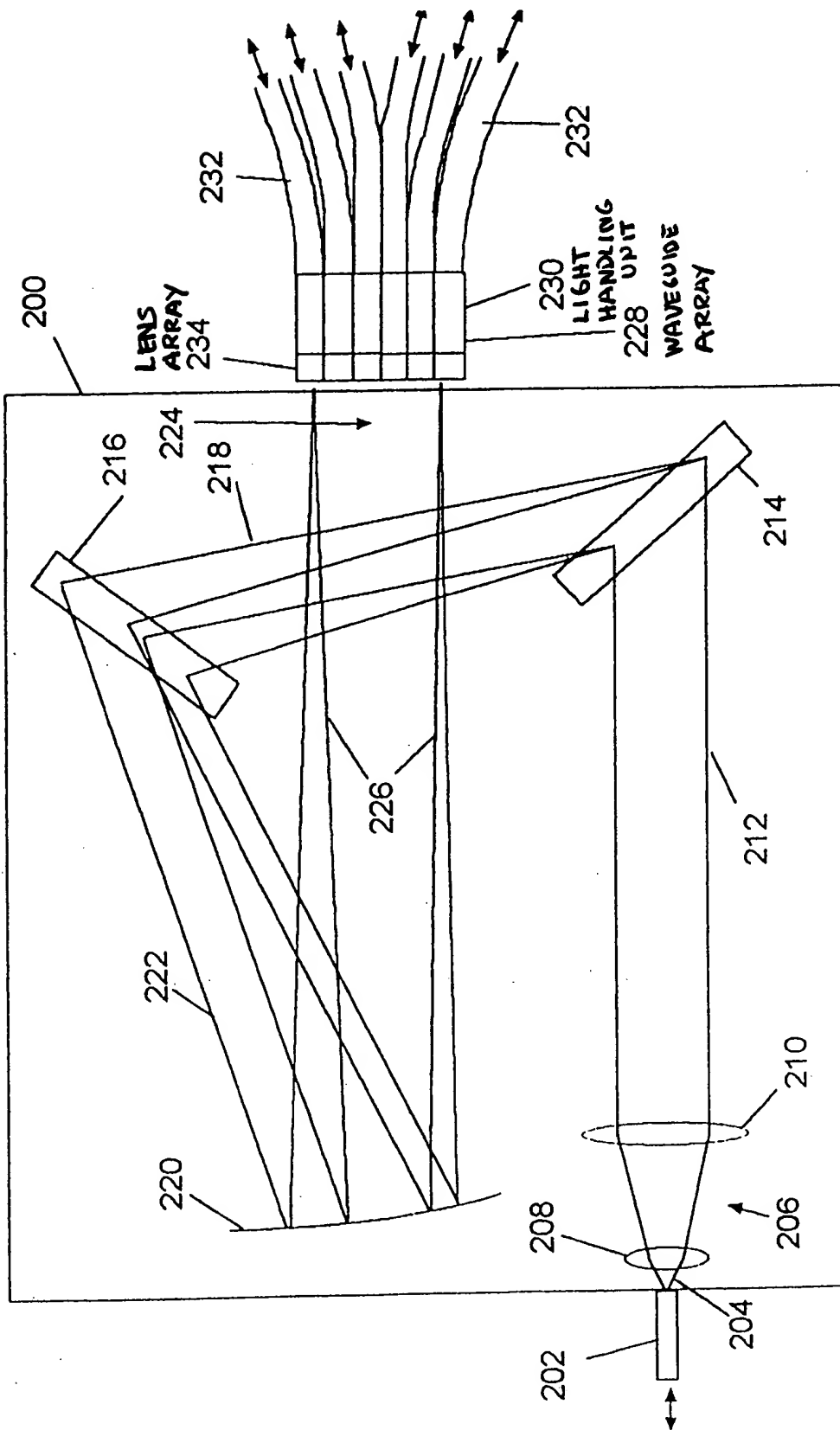


FIG. 2

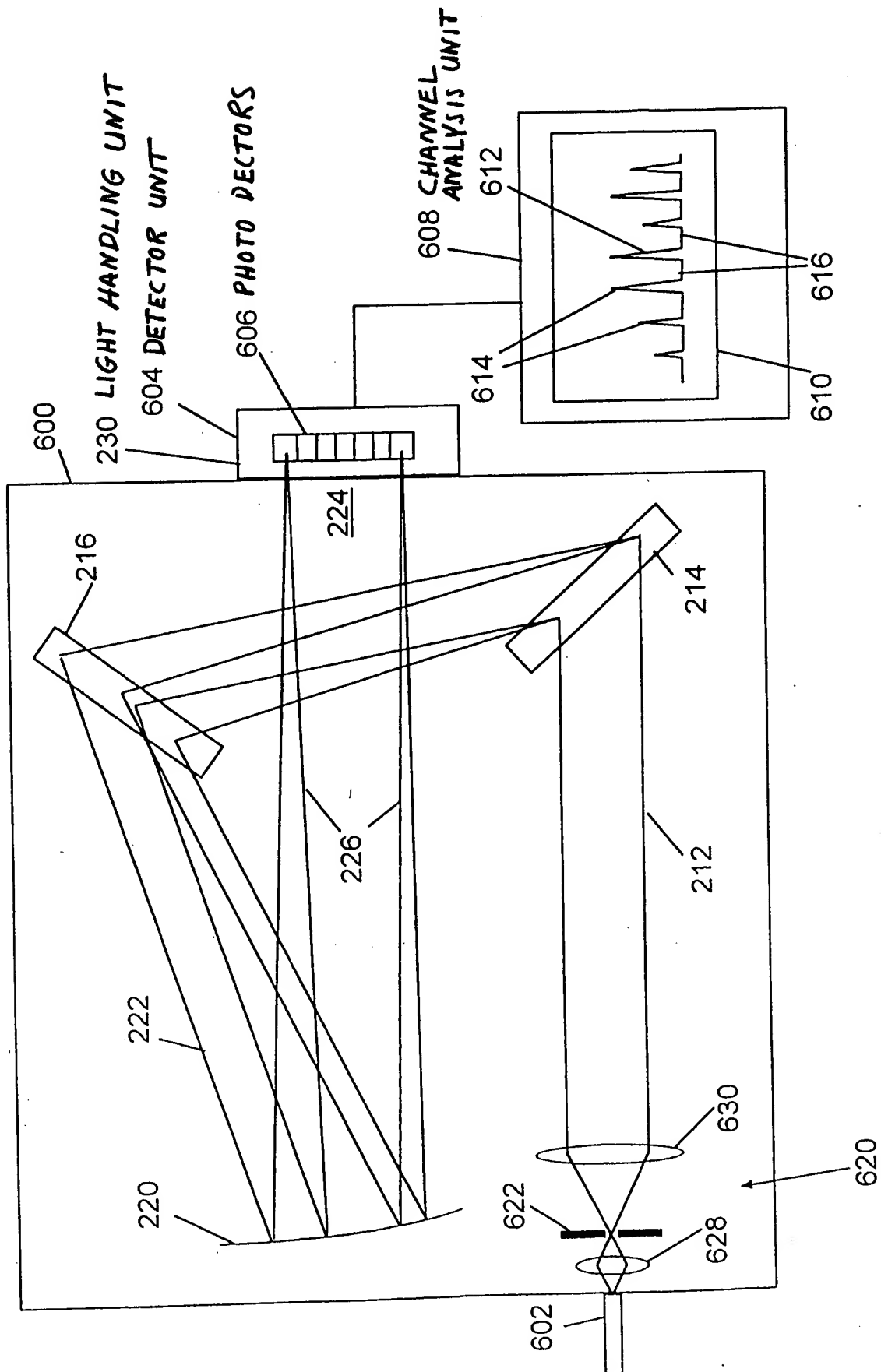


FIG. 6

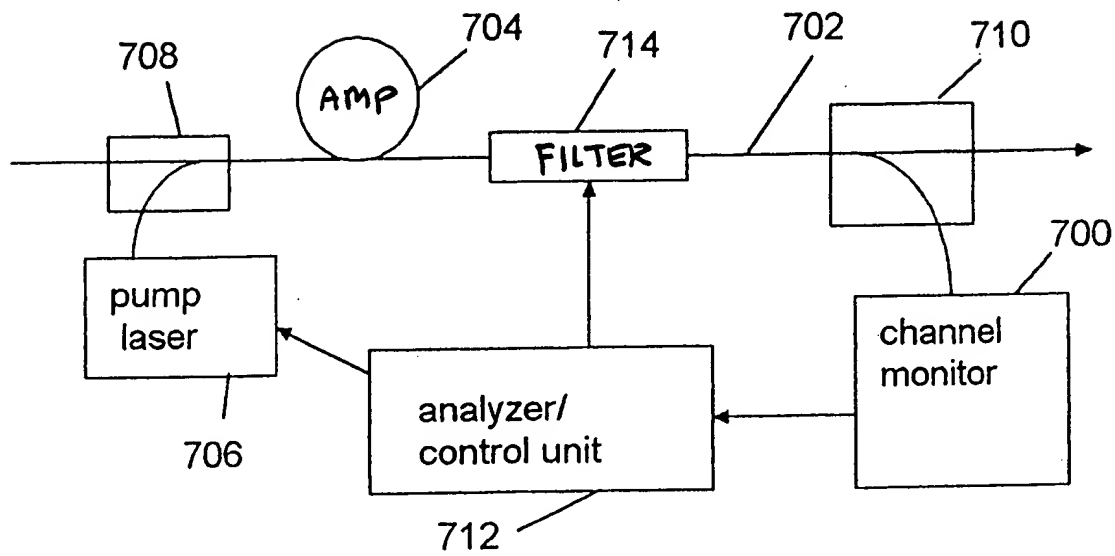


FIG. 7

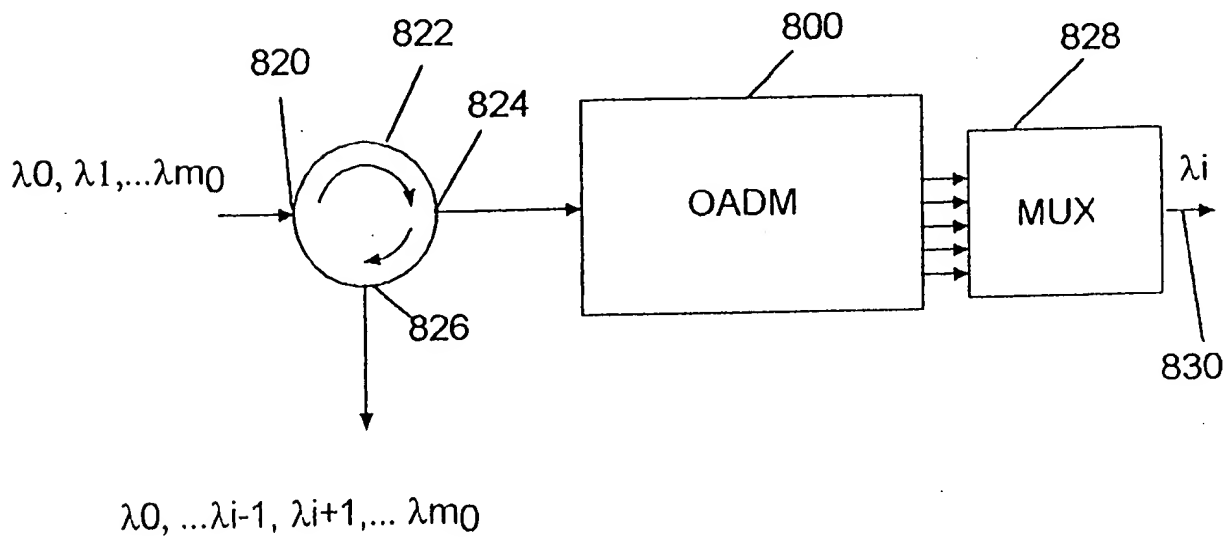


FIG. 10

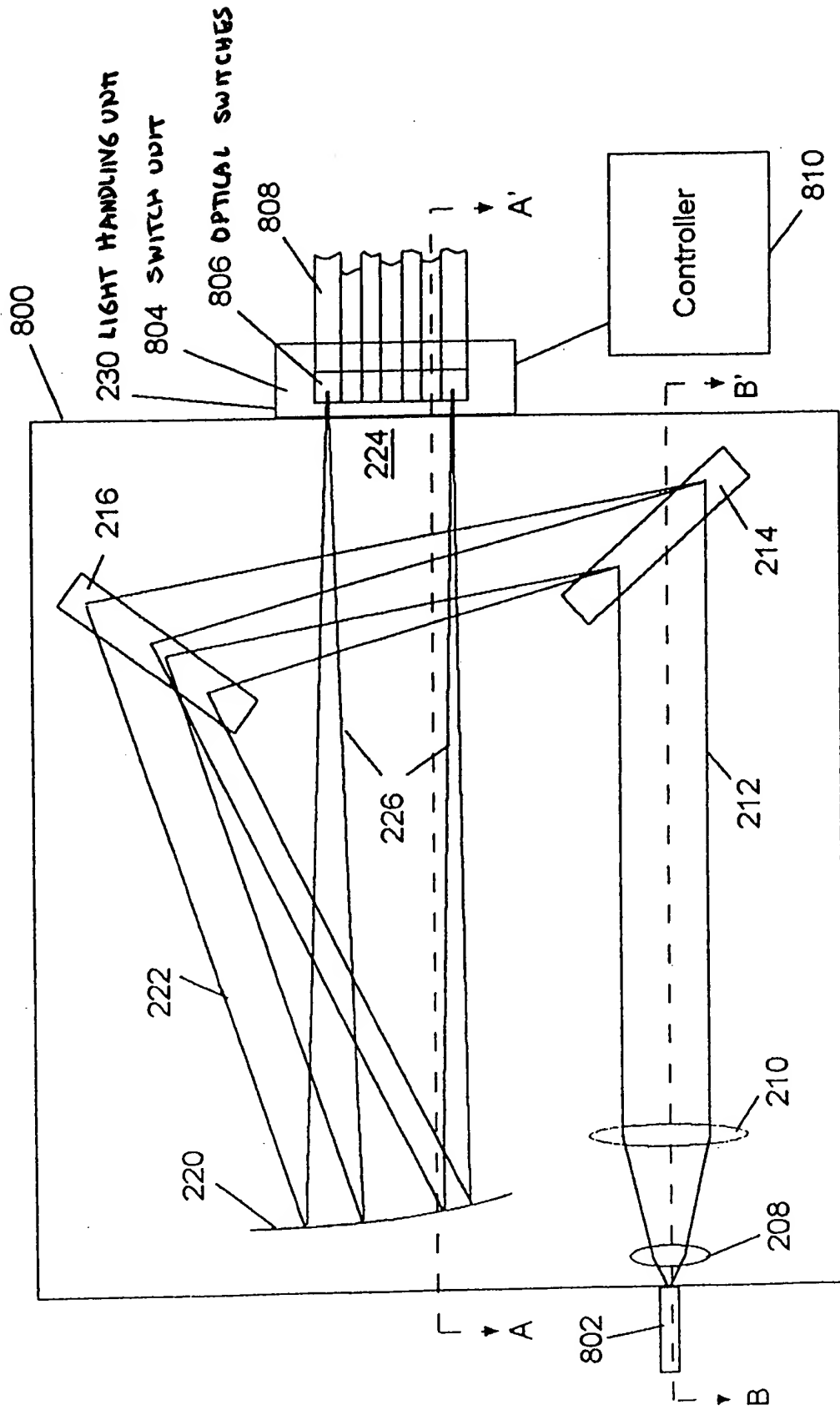


FIG. 8

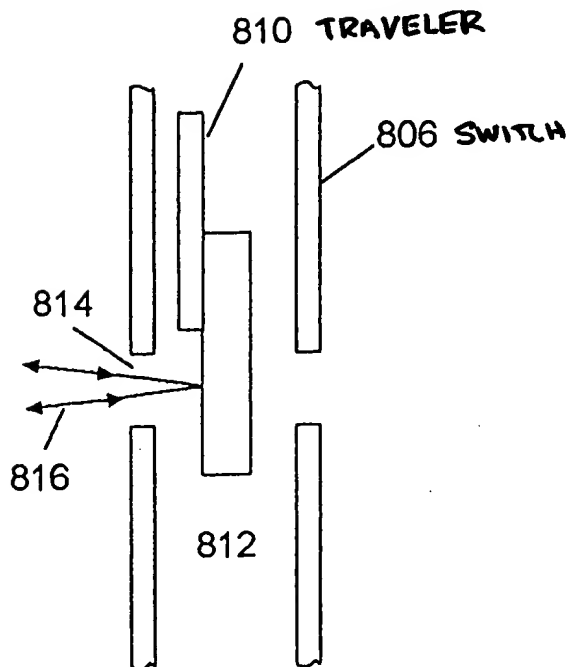


FIG. 9A

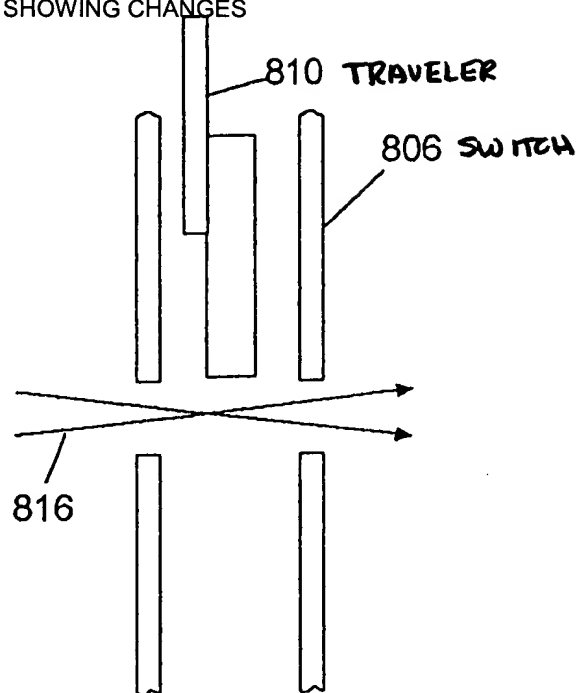


FIG. 9B

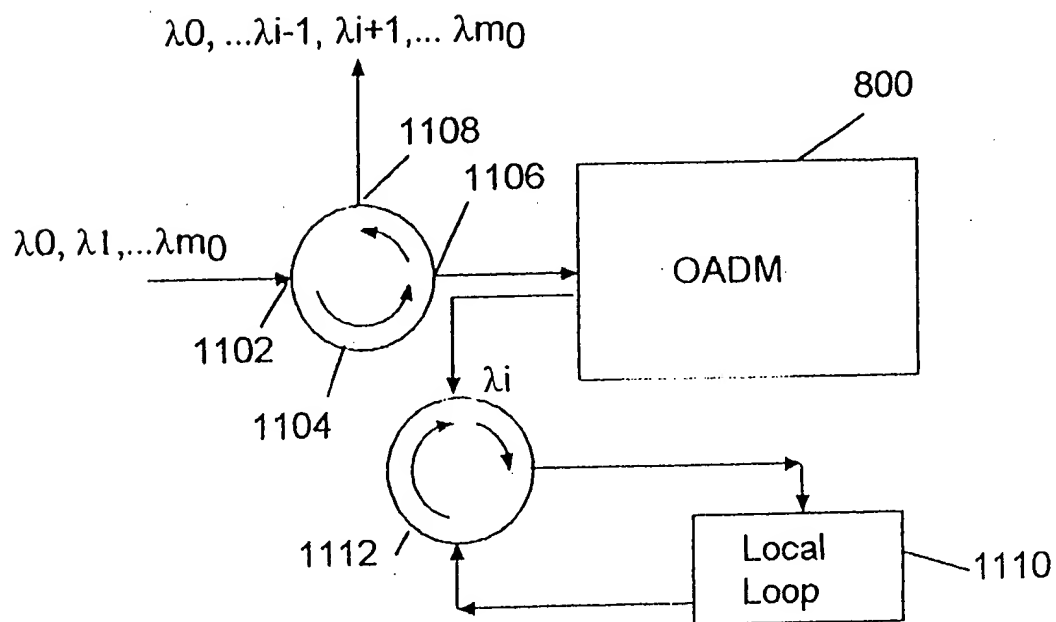
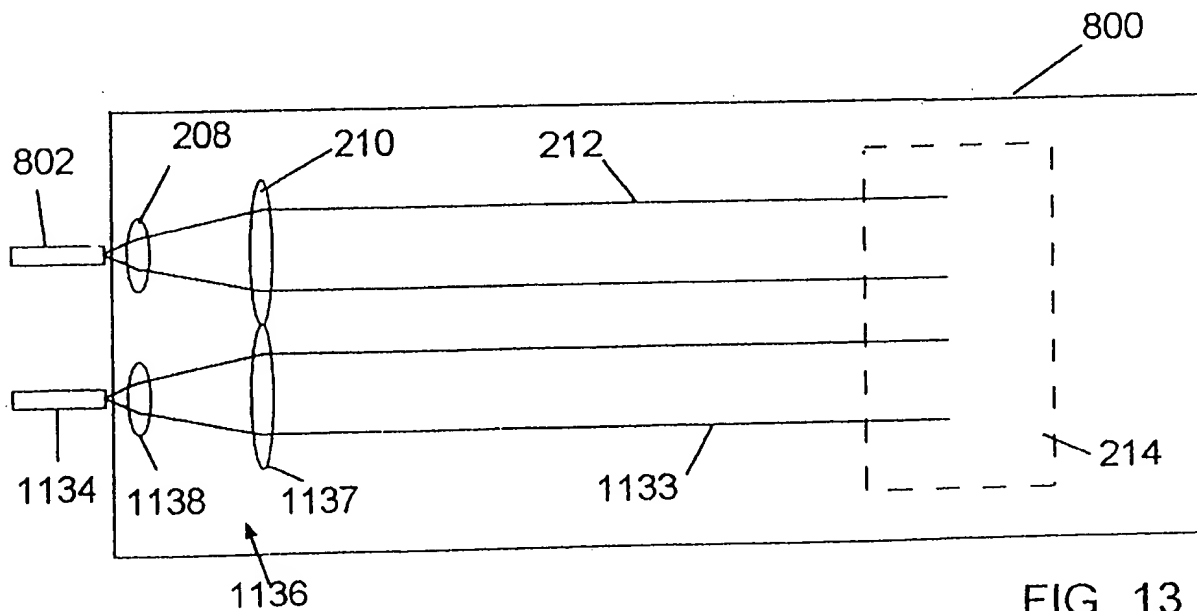
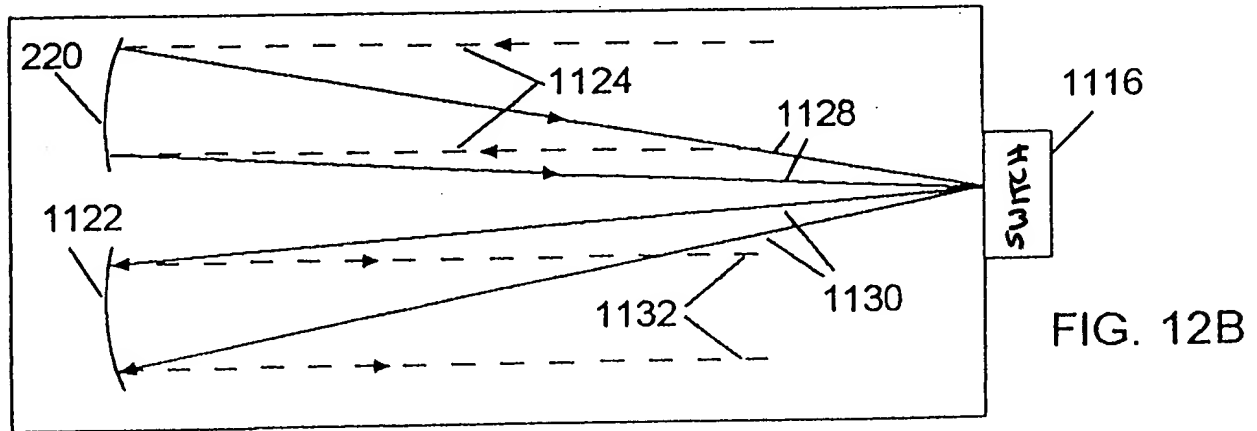
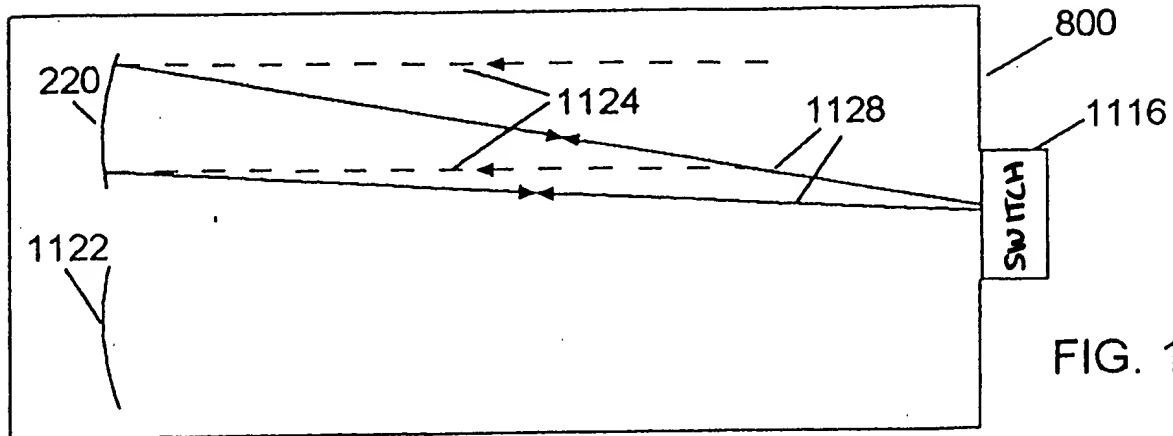
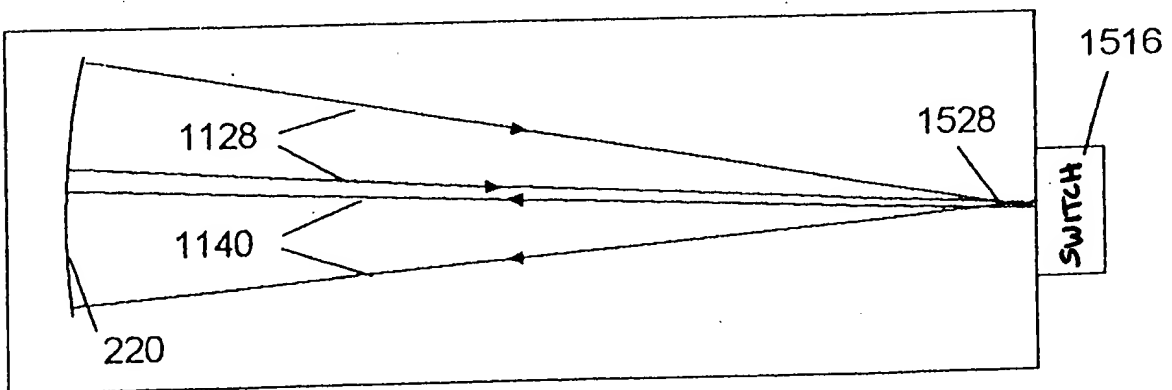
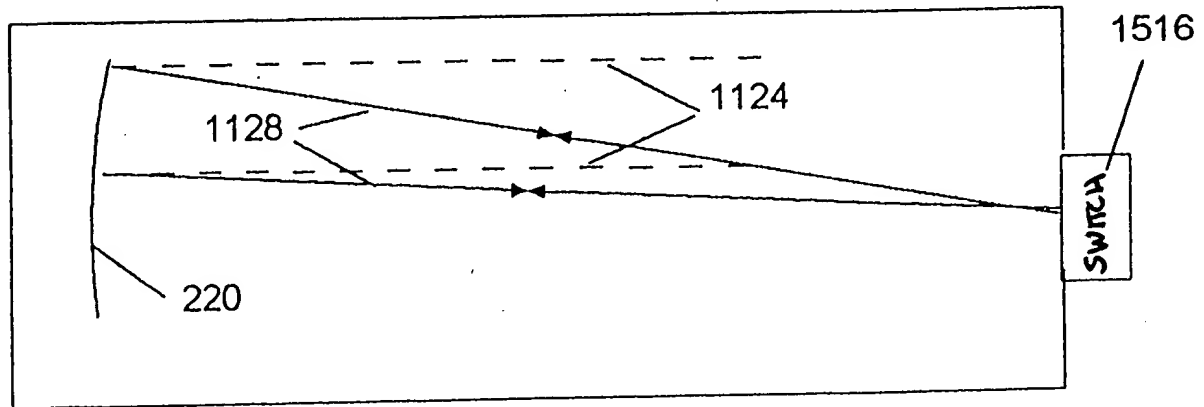
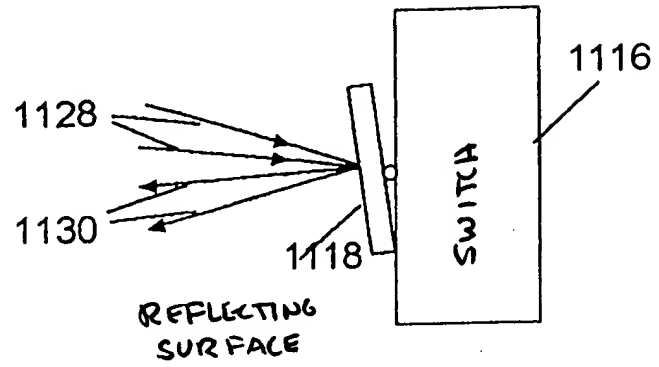
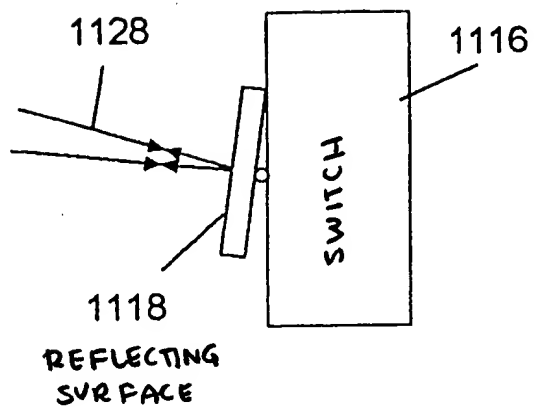


FIG. 11





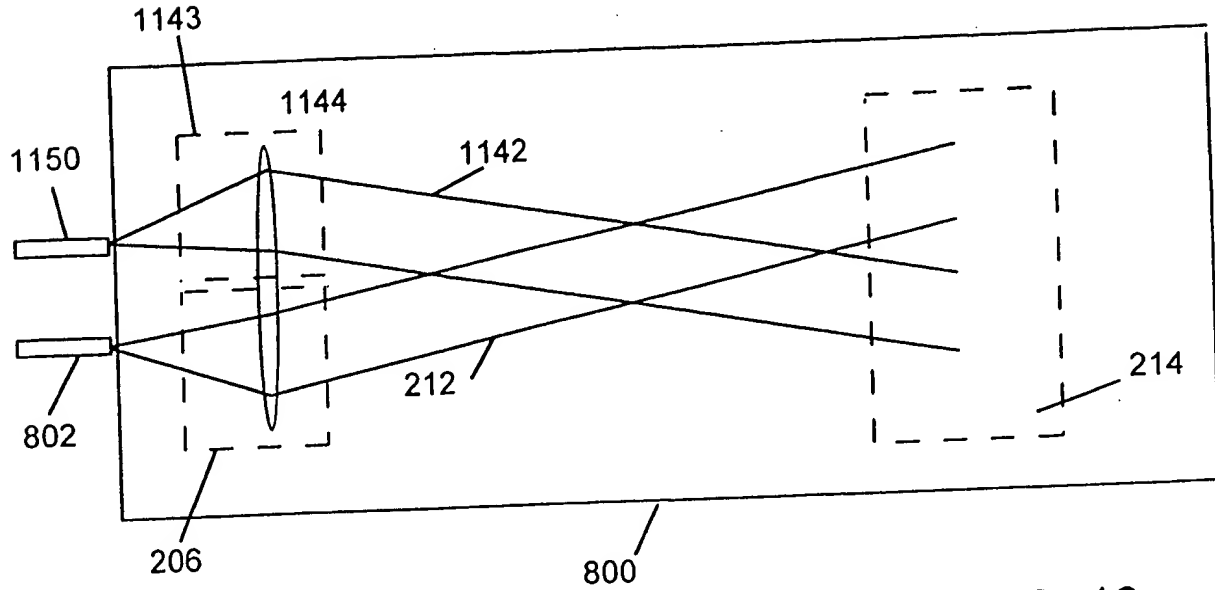


FIG. 16

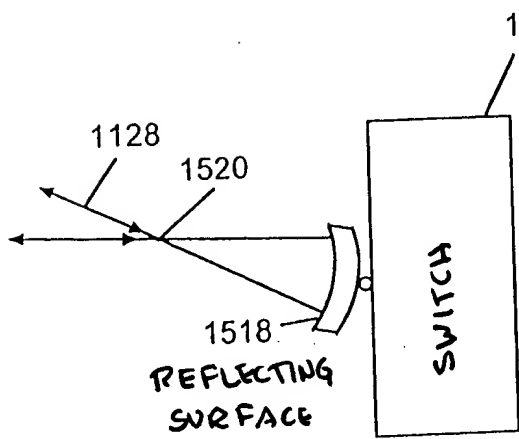


FIG. 17A

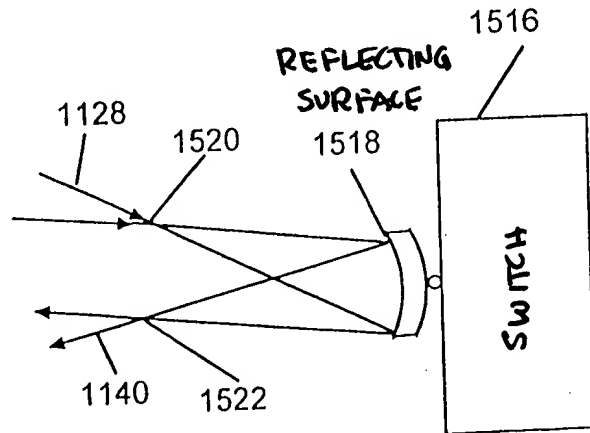
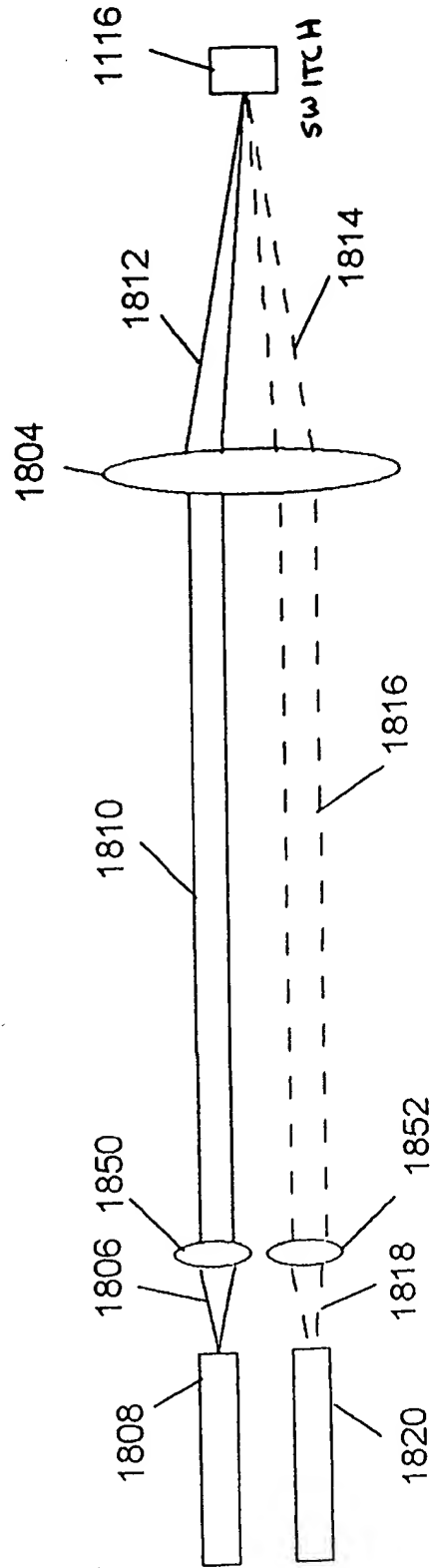
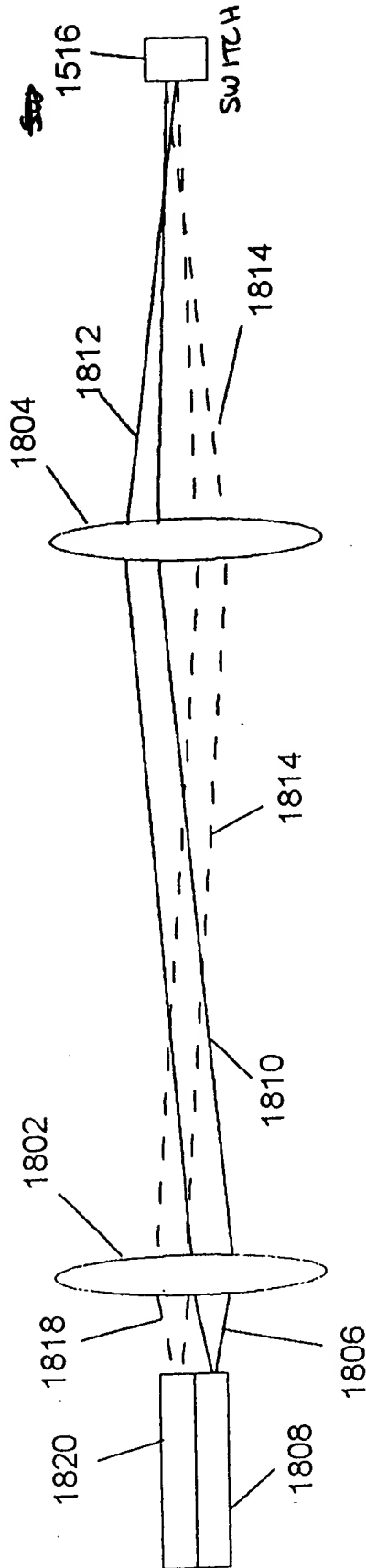


FIG. 17B



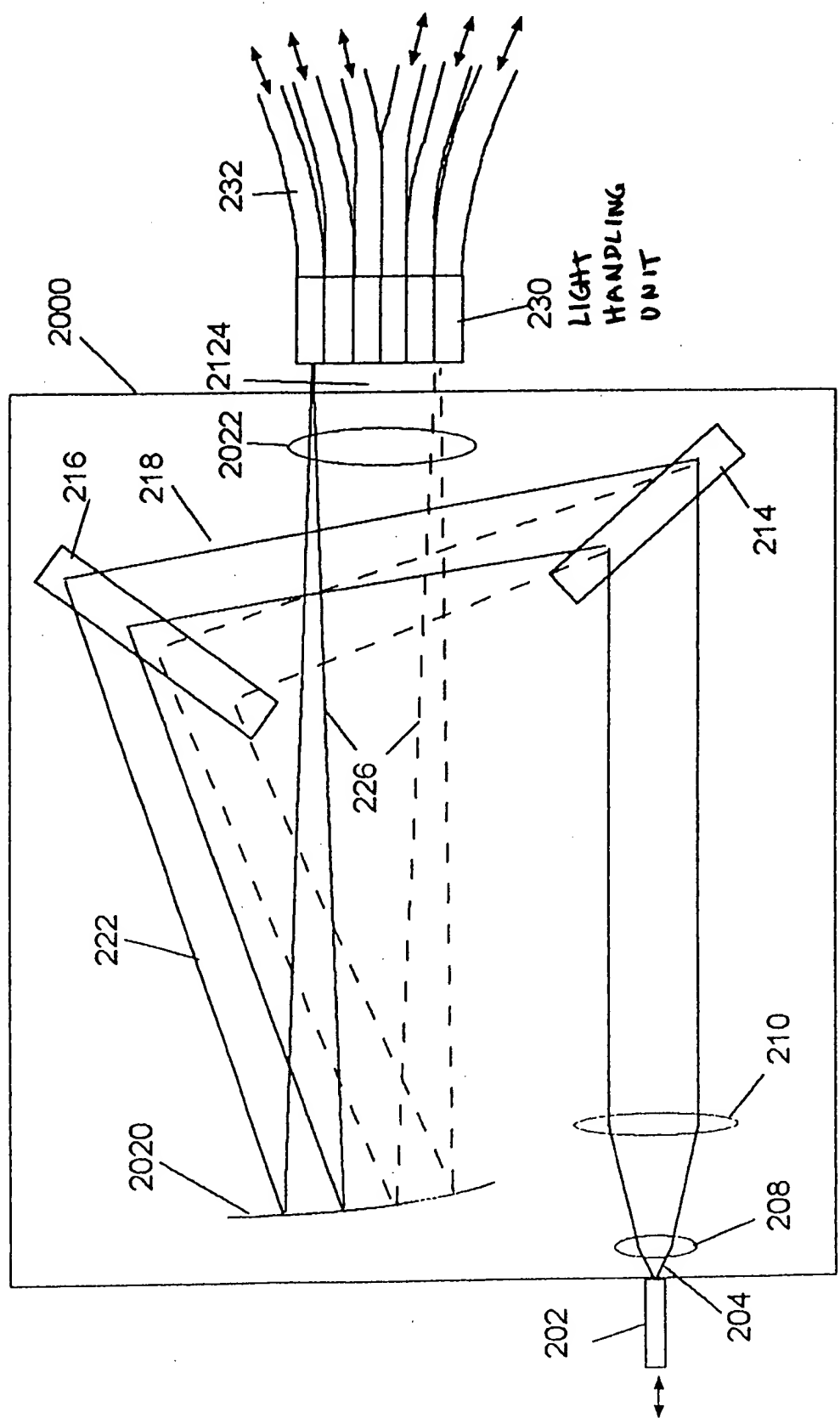


FIG. 20

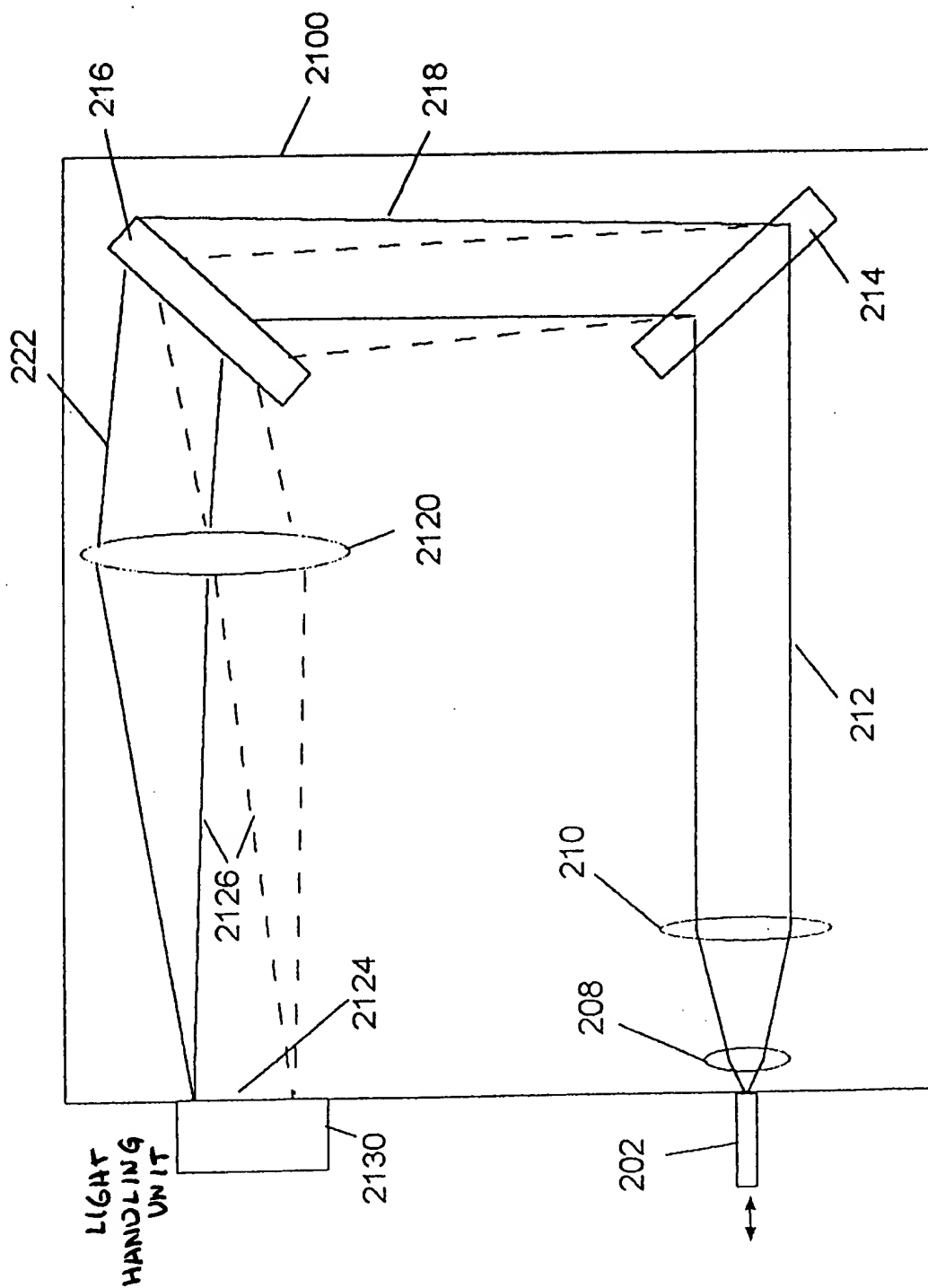


FIG. 21

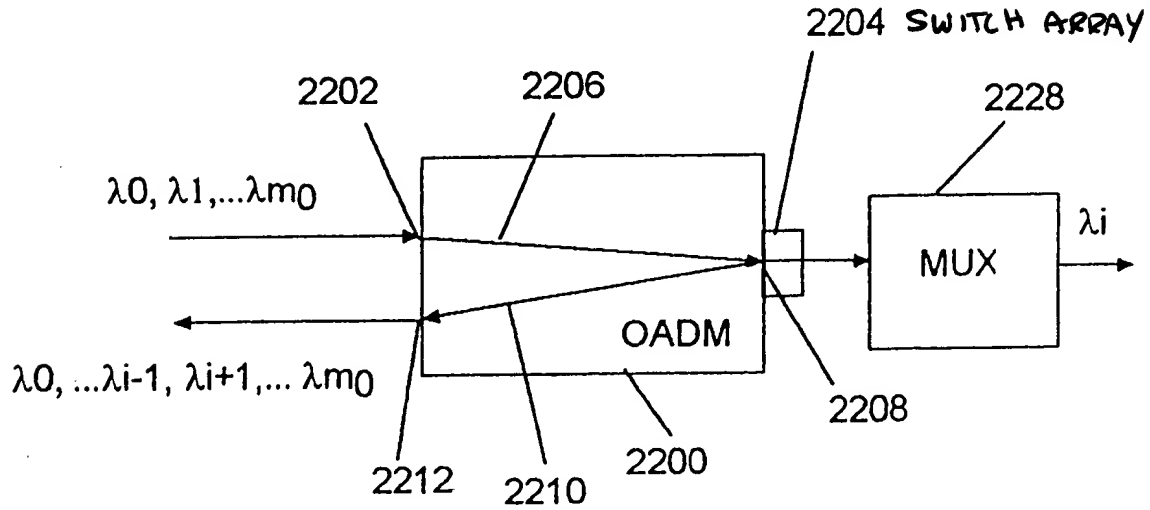


FIG. 22

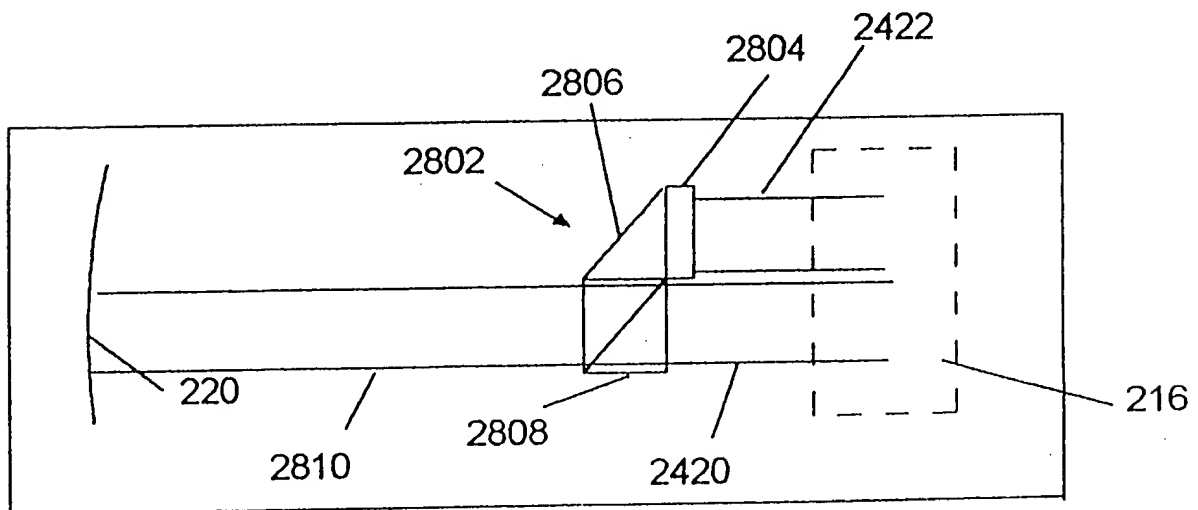
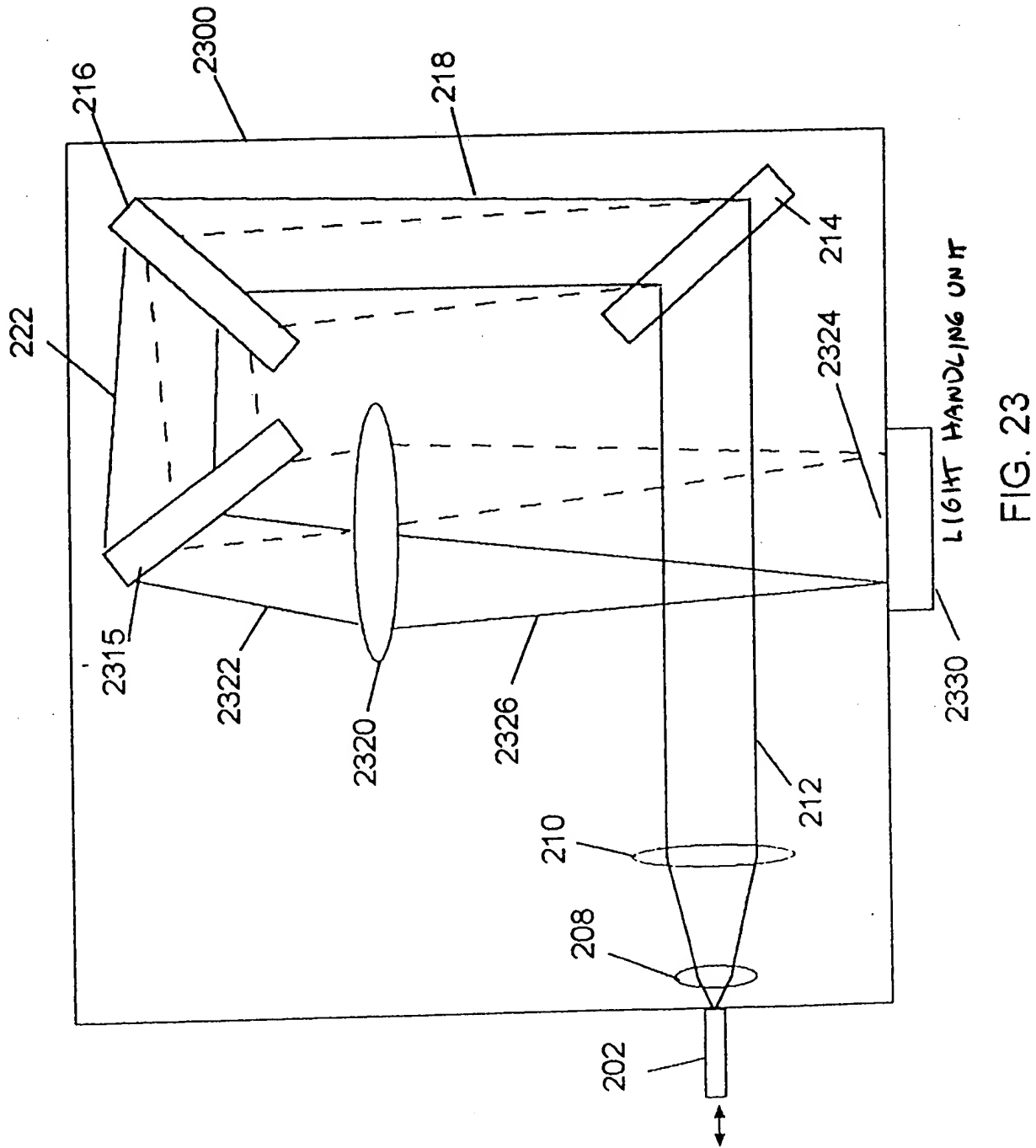


FIG. 29



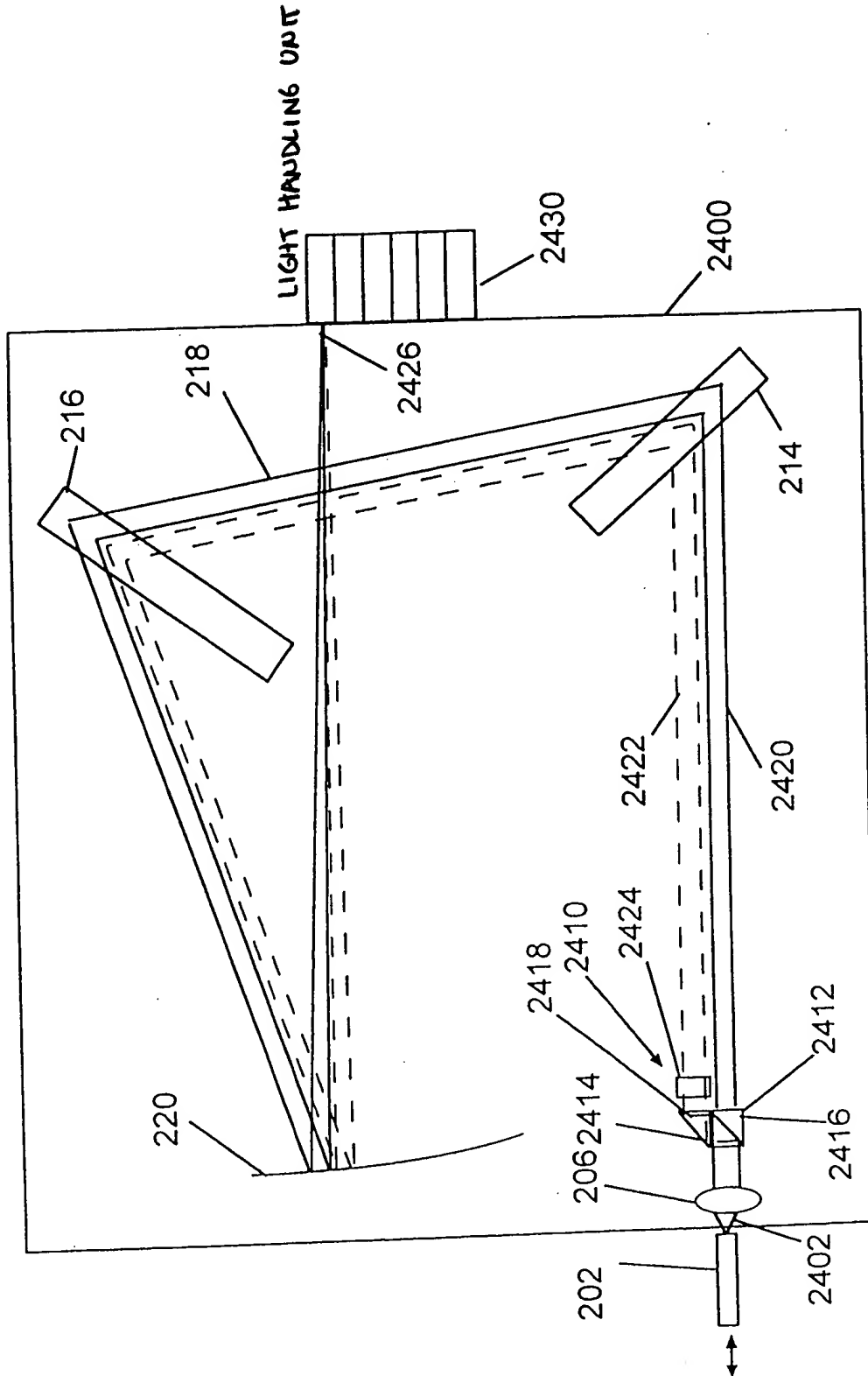
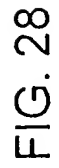


FIG. 24



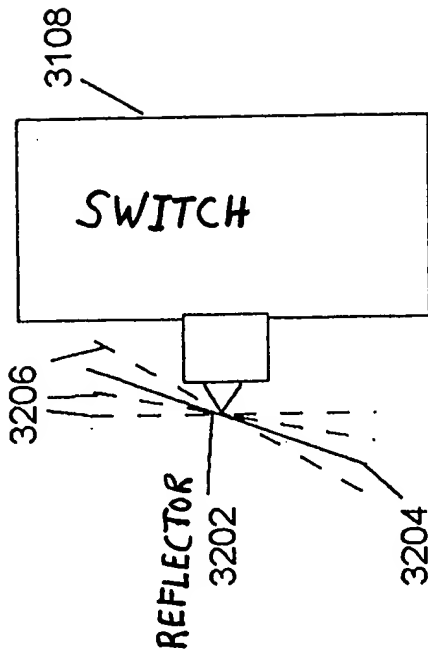
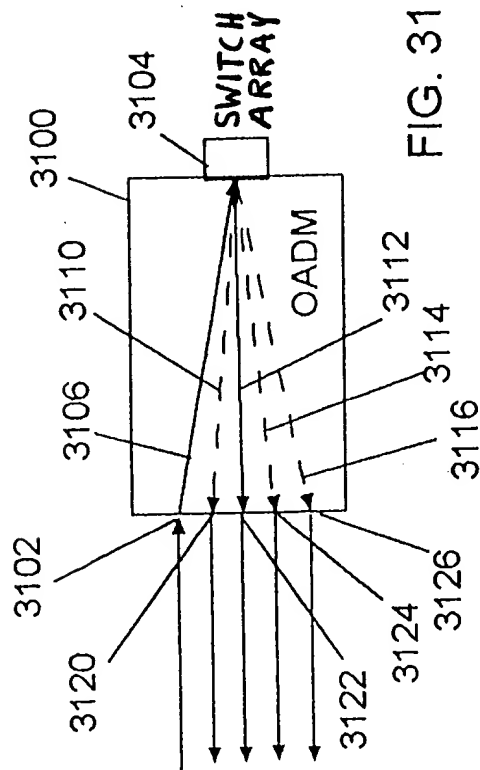


FIG. 32



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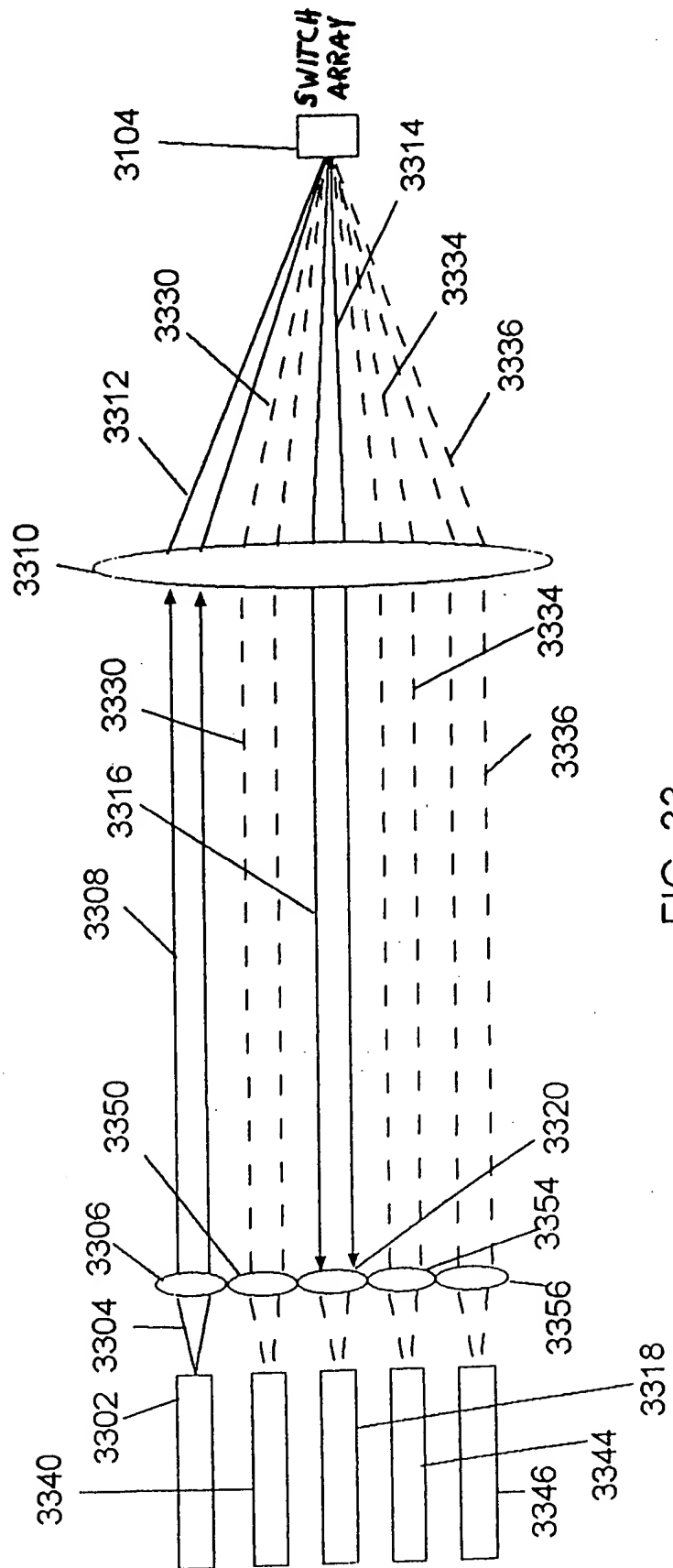


Fig. 33

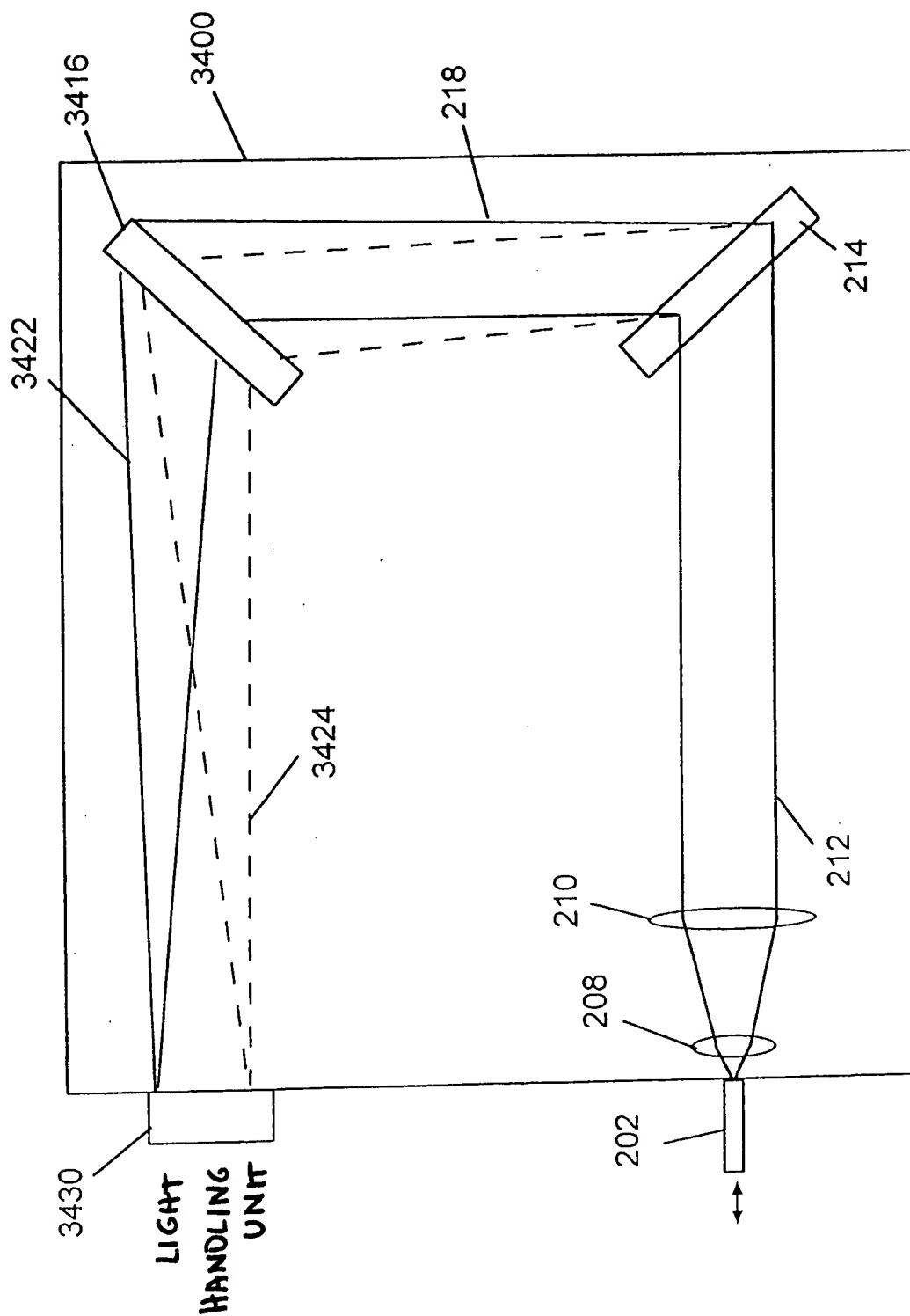
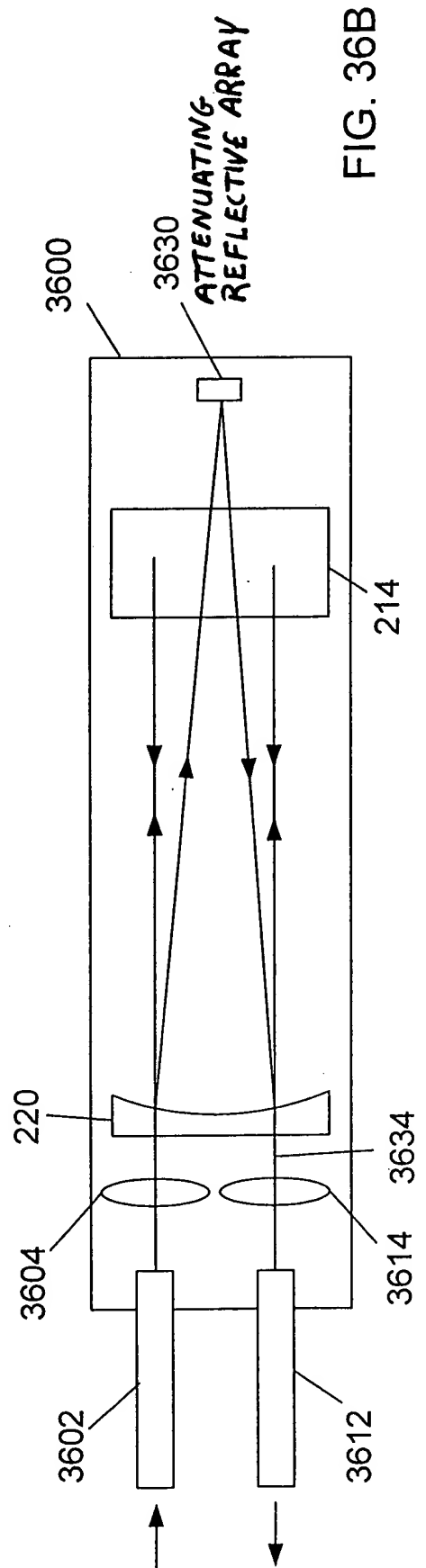
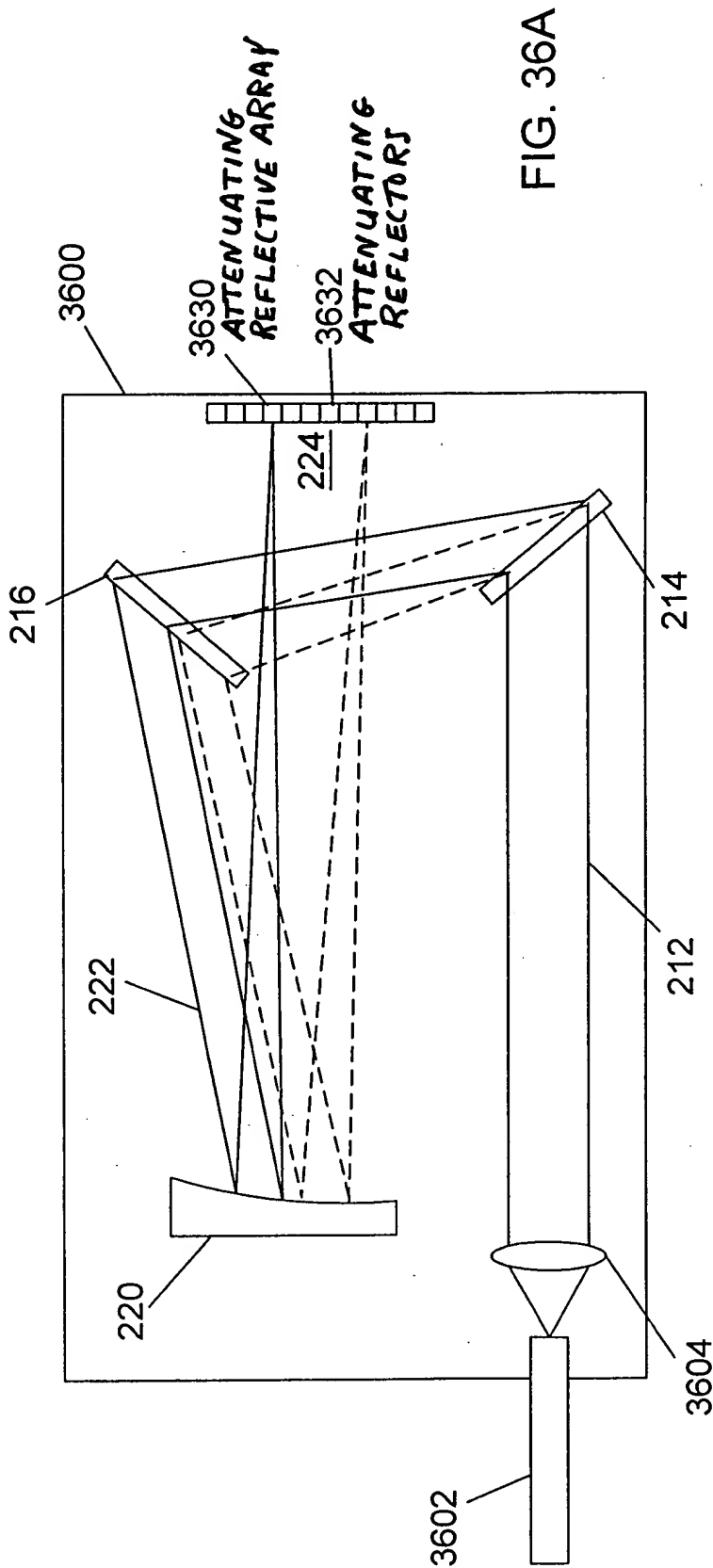
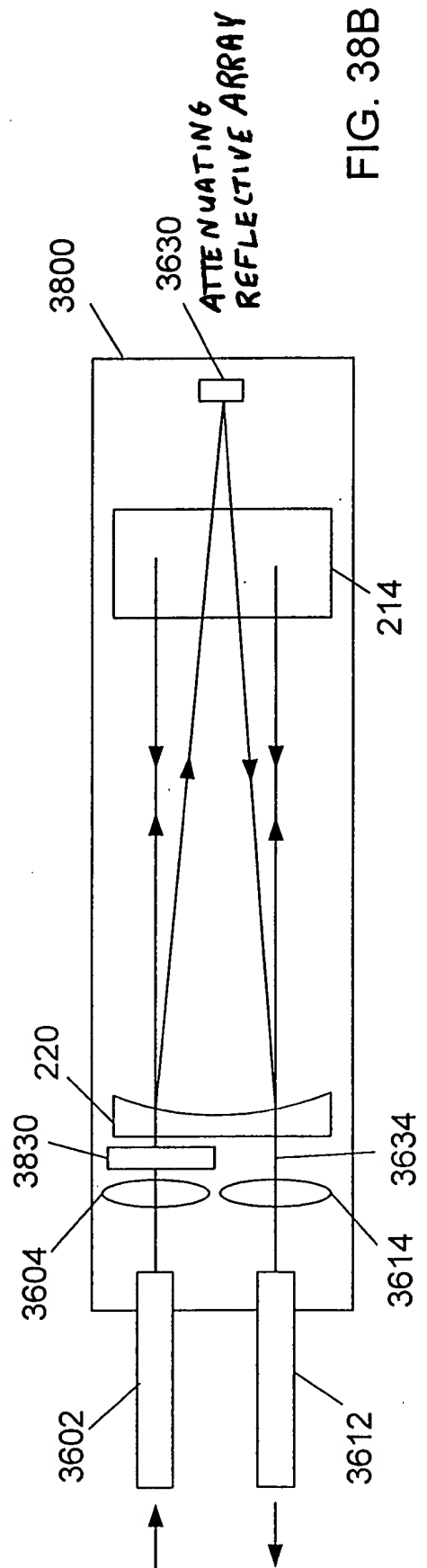
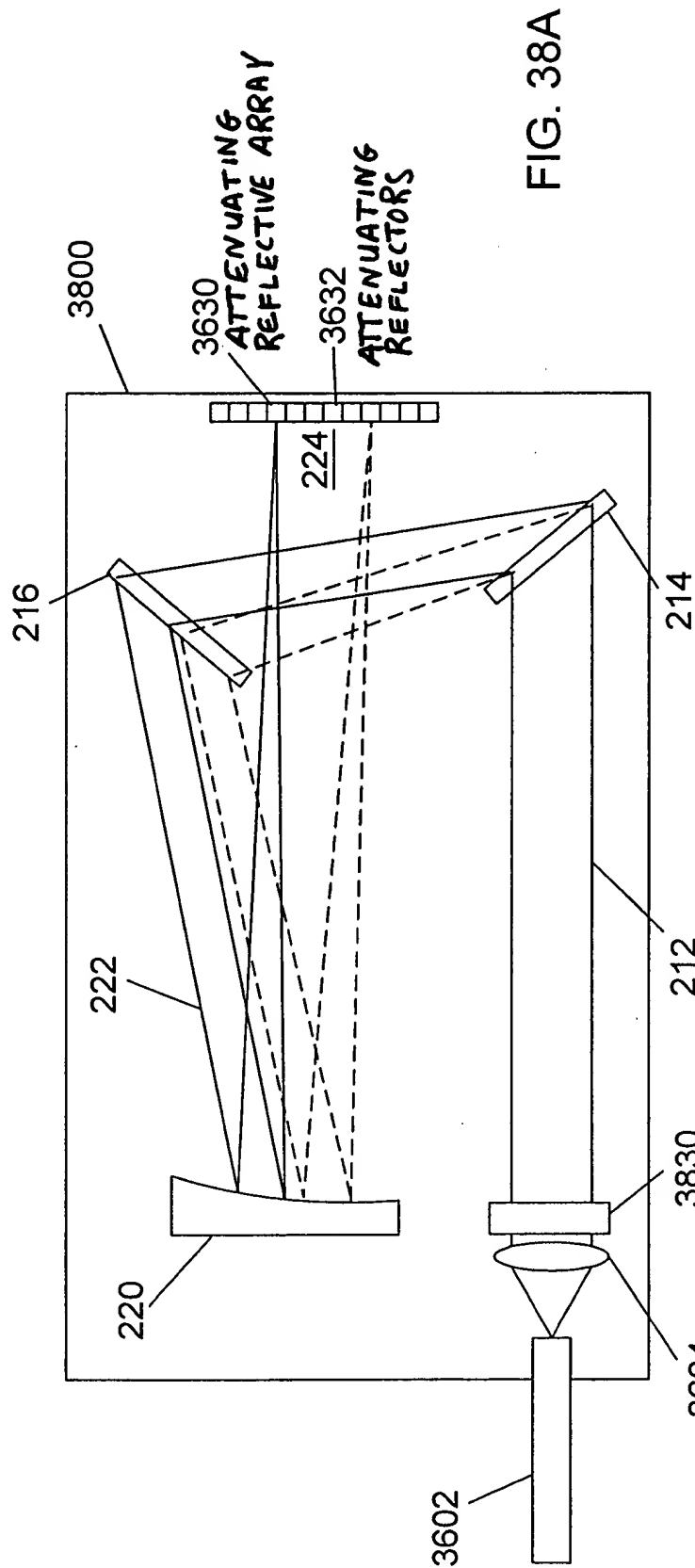


FIG. 34





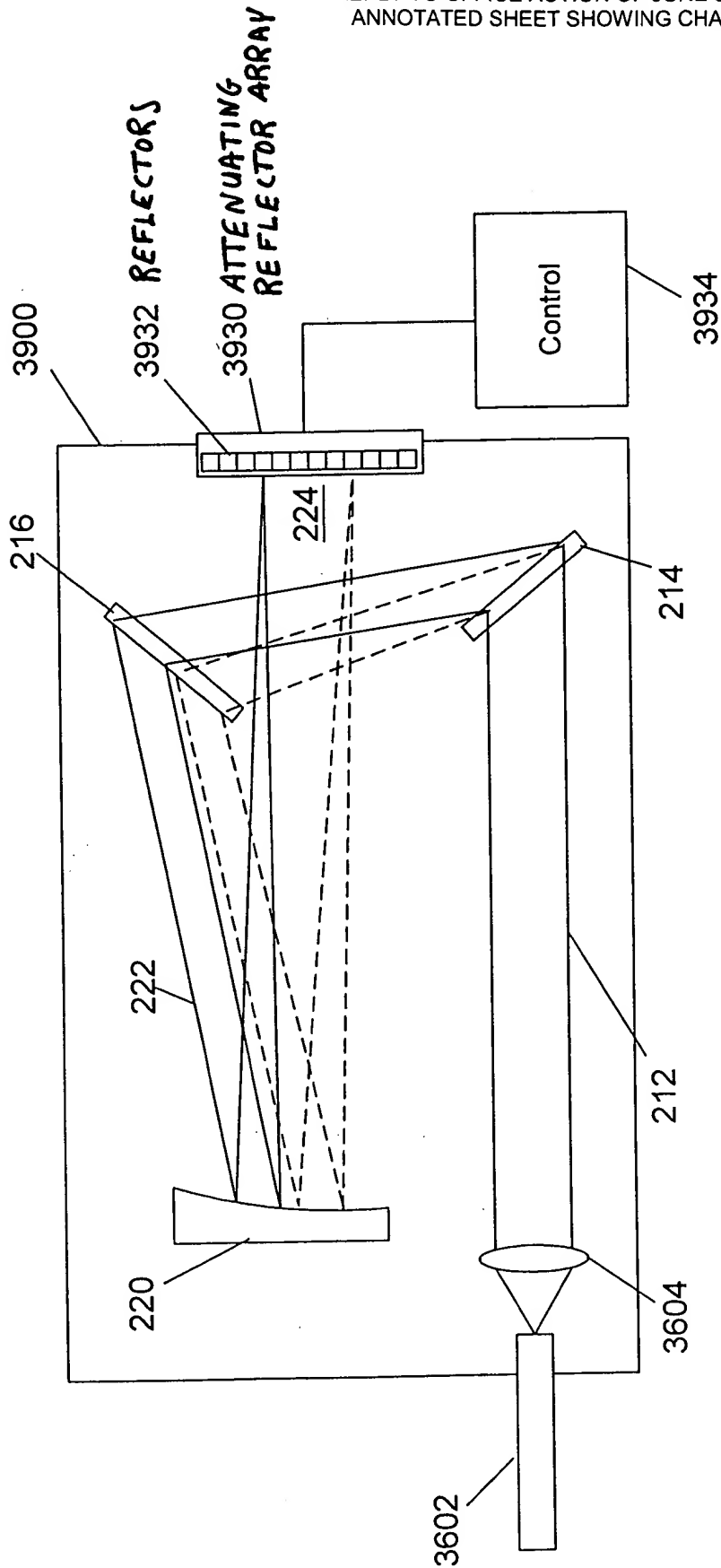


FIG. 39

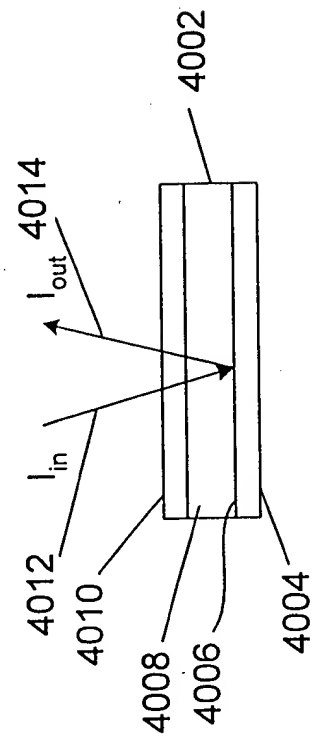


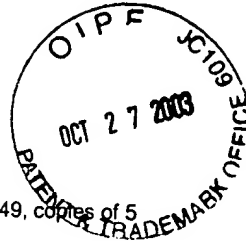
FIG. 40



Receipt is hereby acknowledged for the following in the U.S. Patent and Trademark Office

Date of Deposit: October 22 2003

Applicant: IBSEN et al.
Title: WAVELENGTH DIVISION MULTIPLEXED DEVICE
Serial Number: 09/940554
Filing Date: August 27, 2001
Docket Number: 01485.0005-US-01

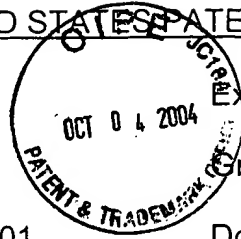


- ☒ Supplemental Information Disclosure Statement, Form 1449, copies of 5 reference(s)
- ☒ Associate Power of Attorney
- ☒ Transmittal Sheet
- ☒ Return postcard

DHC/vlb

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: IBSEN et al.



Examiner: Unknown

Serial No.: 09/940554

Group Art Unit: 2661

Filed: August 27, 2001

Docket No.: 01485.0005-US-01

Title: WAVELENGTH DIVISION MULTIPLEXED DEVICE

CERTIFICATE UNDER 37 C.F.R. 1.8: The undersigned hereby certifies that this Transmittal Letter and the paper, as described herein, are being deposited in the United States Postal Service, as first class mail, with sufficient postage, in an envelope addressed to: Commissioner for Patents, Alexandria, VA 22313-1450 on October 22, 2003.

David H. Carroll
Name


Signature

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

- ☒ Supplemental Information Disclosure Statement, Form 1449, copies of 5 reference(s)
- ☒ Associate Power of Attorney
- ☒ Transmittal Sheet
- ☒ Return postcard


Authorization is hereby given to charge any additional fees or credit any overpayments that may be deemed necessary to Deposit Account Number 50-1038.

Respectfully submitted,

Altera Law Group, LLC
Customer No. 22865

Date: October 22, 2003

By:


David H. Carroll
Reg. No. 29903
DHC/vlb

Serial No. 09/940554

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	IBSEN et al.	Examiner:	Unknown
Serial No.:	09/940554	Group Art Unit:	2661
Filed:	August 27, 2001	Docket No.:	01485.0005-US-01
Title:	WAVELENGTH DIVISION MULTIPLEXED DEVICE		

CERTIFICATE UNDER 37 C.F.R. 1.8: The undersigned hereby certifies that this document is being deposited in the United States Postal Service, as first class mail, with sufficient postage, in an envelope addressed to: Commissioner for Patents, Alexandria, VA 22313-1450 on October 22, 2003.

David H. Carroll
Name

Signature

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT UNDER 37 C.F.R. §1.97(b)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Applicant(s) respectfully submit(s) the items of information on the enclosed Form 1449 for the attention of the Examiner in the above-identified application.

This Information Disclosure Statement is being filed within three months of the filing of a national application other than a continued prosecution application under 37 C.F.R. 1.53(d); within three months of the date of entry of the national stage as set forth in 37 C.F.R. 1.491 in an international application; before the mailing date of a first Office Action on the merits, or before the mailing of a first Office Action after the filing of a request for continued examination under 37 C.F.R. 1.114. Accordingly, no fee is due for consideration of the items listed on the enclosed Form 1449.

A copy of each document or other information listed on the enclosed Form 1449 is enclosed in accordance with 37 C.F.R. §1.98(a)(2) and/or a copy of each document is not provided because it was previously cited by or submitted to the U.S. Patent and Trademark Office in a parent application in accordance with 37 C.F.R. §1.98(d).

No representation is made that a reference is "prior art" within the meaning of 35 U.S.C. §§102 and 103. In addition, Applicant(s) do(es) not represent that a reference has been thoroughly reviewed or that any relevance of any portion of a reference is intended, and reserve the right to establish otherwise under 37 C.F.R. §1.131 or others.

Consideration of the items listed is respectfully requested. According to M.P.E.P. §609, Applicant(s) request(s) that the Examiner return a copy of the attached Form 1449, marked as being considered and initialed by the Examiner, to the undersigned with the next official communication.

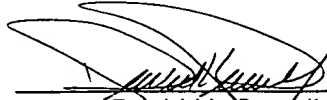
Authorization is hereby given to charge any additional fees or credit any overpayments that may be deemed necessary to Deposit Account Number 50-1038.

Respectfully submitted,

Altera Law Group, LLC
Customer No. 22865

Date: October 22, 2003

By:



David H. Carroll
Reg. No. 29,903
DHC/vlb

Group Art Unit
2661

Churin et al., "Passband flattening and broadening techniques for high spectral efficiency wavelength demultiplexers", *ELECTRONIC LETTERS*, January 7, 1999, Vol. 35, No. 1,

Date Considered: